

NHDES Beach Program Adopt-a-Beach Proposal

1.0 Background

The New Hampshire Department of Environmental Services (DES) has operated a Public Beach Inspection Program for over 20 years. The program's main goal is to prevent swimmer exposure to pathogenic bacteria, thereby protecting public health. Currently, DES monitors 157 freshwater beaches on at least a monthly basis and 15 coastal beaches on a weekly basis from June 15th through Labor Day. Program participation by public beach owners is voluntary. Beach owners that choose not to participate in the Beach Program are allowing the public to recreate in unmonitored beaches, and may present an unnecessary health risk to the public.

Currently 31 percent of estuarine waters, 42.4 percent of freshwater lakes, 86.8 percent of impoundments, 93.5 percent of ocean, and 87.3 percent of rivers have insufficient information or are un-assessed for primary contact recreation [2002 Consolidated Assessment and Listing Methodology (CALM)]. DES is working to develop a comprehensive catalogue of all designated beach areas in the state. The list would include all beaches located on lakes, rivers, impoundments, and tidal waters; and would include beaches owned by the state, town, or private sector (hotel, motels, camps etc...). The catalogue will aid DES in determining the number of designated beaches in the state, the percent that go un-monitored, and produce GIS coverage on a statewide basis.

2.0 Beach Program Proposal

The relationship between the increases of waterborne disease to beach user groups who recreate in waters of unknown quality has been well documented. In an attempt to enhance public health protection, DES proposes the development of an Adopt-a-Beach Program. The nature and extent of the program is to promote public education, interest, and involvement in protecting public beaches statewide. The program would enable DES to accomplish several goals:

- Develop a comprehensive monitoring program
- Protect the public from contracting a waterborne disease
- Establish a catalogue of designated beach areas
- Track public beach water quality trends
- Identify areas of primary concern
- Provide additional water quality data to EPA

- Enable DES to classify waters as supporting primary contact recreation

DES issued 23 advisories in 2002 and 22 advisories in 2003 for elevated bacteria concentrations at public beaches. A goal of the DES Strategic Plan is to “Maintain and improve the quality of New Hampshire’s surface waters in order to fully support appropriate ecosystem and anthropogenic uses.” The following is the goal DES hopes to achieve: “By January 2007, reduce the percentage of inspected beaches with closures/postings by 30% over the percentage of beaches with closures/postings during the previous 5 year period.” The Adopt-a-Beach program would allow DES to collect sufficient biological data to address important water quality issues with the areas municipalities that contain public beaches.. This data will be used to eliminate or reduce watershed bacterial loads to surface waters with the goal of eliminating or reducing beach advisories.

3.0 Program Description

DES’ Role

The Beach Program is responsible for, but not limited to, the functions listed below:

- Adopt-a-Beach Program administration.
 - Program development, initiation, organization and management
- Volunteer recruitment.
 - Educate volunteers, provide outreach activities, and distribute promotional materials.
- Volunteer training
 - Provide field training sessions prior to the beach season.
- Beach advisory notification and posting.
 - Manage beach data, issue beach advisories, remove advisories and communicate with volunteers.
- Cyanobacteria identification.
 - Analyze and identify algae in scum samples. Perform toxicity testing on samples containing toxic cyanobacteria.
- Beach clean-up organization.
 - Promote and organize beach cleanups throughout the beach season. Design, distribute, and collect data cards. Distribute gloves and trash bags and monitor beach activities to ensure safety.

- Public education and outreach.
 - Create distribute and display educational materials and signage. Hold meetings to address public concerns. Maintain a website.
- Grant research.
 - Identify grant programs for volunteers to obtain funds for beach specific projects.

Adopter's Role

Volunteers (groups, individuals, associations, organizations, businesses) are responsible, but not limited to, these functions:

- Organize an adoption team.
 - Individuals or groups work together as an adoption team. Encourage participation and community involvement.
- Attend training.
 - Volunteers must attend a training session prior to beach monitoring.
- Perform beach inspections.
 - Volunteers may perform monthly or more frequent beach inspections for DES. Volunteers complete a field data sheet on each beach area and deliver field sheets and bacteria samples to DES. Typically, beach inspections involve collecting water samples (see below).
- Collect water quality data.
 - Volunteers may collect bacteria or cyanobacteria samples once per month or more frequently. Bacteria samples are collected at the same time a beach inspection is performed (see above). Bacteria samples are properly preserved and transported to the DES Laboratory Services within proper holding times. Funds are required to pay for the *E. coli* analyses. Funds may be supplied by the beach owner or volunteer group.
- Post beach advisories.
 - Volunteers are provided beach advisory signs. Adoption teams choose primary and advisory contacts that are responsible for posting a beach advisory for bacteria exceedances or cyanobacteria scums. Volunteers may also re-sample the beach after an advisory has been issued. Once bacteria counts are measured below the state standards for a designated

beach, the advisory is removed. The primary or advisory contact is responsible for removing beach advisories.

- Develop a beach specific monitoring program.
 - Volunteers may work with DES to develop a monitoring program specifically designed for that beach. The program could include more frequent sampling and inspections, sampling after rain events, and collecting bather load data.
- Participate in beach clean-ups.
 - Volunteers must either perform water quality monitoring or conduct beach cleanups, or perform both activities. Volunteer must conduct at least one beach cleanup from June through Labor Day. DES can organize the event and provide gloves, trash bags, and data cards. Volunteers collect trash and record the item on the data card. The data is used to assess the amounts and types of trash found on the beach. Results of the beach cleanup can be used to promote public awareness of problems associated with litter.
- Assist in community education and outreach.
 - Volunteers may conduct public surveys and distribute educational materials, assist in organizing a public information session, or create and design beach specific educational materials.
- Initiate beach improvement projects.
 - Volunteers may purchase and maintain trash and/or recycling receptacles, organize tree or shrub planting to reduce beach erosion, and purchase or build picnic tables.

Program Initiation

The anticipated pilot initiation of the Adopt-a-Beach program is the 2004 season. Below is a brief project timeline and work plan.

- Spring 2004: Develop program functions and responsibilities, estimate start-up costs, education and outreach, and recruit volunteers.
- Summer 2004: Initiate pilot program, train volunteers, conduct beach inspections, conduct beach clean-ups, and continue education and outreach activities.
- Winter 2004/Spring 2005: Perform data QA/QC, assess pilot program based on observations and volunteer input, and continue volunteer recruitment.

Start-Up Costs

Equipment and supplies are necessary to properly collect data at beaches. Start-up costs are itemized for NHDES (Table 1) and volunteer groups (Table 2) individually.

Table 1. Estimated Start-Up Costs for the NHDES Beach Program

Item	Estimated Cost	Quantity	Description
Bacteria Sample Bottles	\$200.00	1 cases	Bacteria bottles needed for sampling as the laboratory has a fixed number.
Signs	\$15.00 each	1 per beach	Signs are displayed to acknowledge the volunteer group and inform the public that the beach is monitored.
Tee-shirts	\$15.00 each	1 per volunteer	Tee-shirts are supplied to volunteers to wear while conducting sampling and beach clean-ups. Tee-shirts will help spread the word about the Beach Program.
Gloves	\$30.00	1 case	Gloves are needed for beach clean-ups and in the event of a sewage response.
Garbage Bags	\$75.00	1 case	Garbage bags needed for beach cleanups.
Data Cards	\$25.00	1 case	Data cards are completed during beach clean-ups to estimate the amount and type of trash collected.
Information Packets	\$10.00 each	1 per beach	Packets will include SOPs and Fact Sheets to serve as a guide to the volunteer and educate the public.
Clip Boards	\$10.00 each	1 per beach	Clipboards are needed when conducting inspections and beach clean-ups.
Scale	\$5.00	2	Scales are needed to weigh trash during beach clean-ups.
Tape	\$20.00	1 case	Tape is needed to label bottles.
Digital Camera	\$250.00	1	Digital camera used to collect photographs during training, beach clean-ups, and if volunteers wish to borrow.
Calculators	\$10.00	3	Calculators are needed to tally data cards and total trash weight for beach clean-ups.
Total Estimated Cost Bulk Supplies	\$640.00		
Total Estimated Cost/Beach	\$50.00		

Table 2. Estimated Start-Up Costs For Volunteers

Item	Estimated Cost	Quantity	Description
Thermometer	\$26.00	1 per beach	Thermometers are needed to measure the water temperature.
Sampling Poles	\$20.00	1 per beach	Not required and can be made by the volunteer group. Poles are required if sampling after a sewage spill.
Coolers	\$15.00	1 per beach	Coolers are needed to transport samples on ice to the laboratory.
Sharpie and pens	\$10.00	1 per beach	Waterproof writing utensils are needed to label sample bottles and complete the inspection sheet.
Estimated Total Costs	\$71.00		

Future Goals

- Implement and coordinate a statewide Adopt-a-Beach Program and volunteer network.
- Increase program participation to assess water quality at designated beaches not presently monitored by the Beach Program.
- Assist volunteers in identifying pollution sources and cooperate with beach owners to implement best management practices alleviating the impacts of pollutions sources.
- Provide research grant opportunities and funding sources to support an Adopt-a-Beach Program.
- Increase public awareness and interest in maintaining healthy public beach conditions.

References

Consolidated Assessment and Listing Methodology. New Hampshire Department of Environmental Services, 2002.

DES Draft Strategic Goals and Objectives. New Hampshire Department of Environmental Services Strategic Plan, 2002.